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Sarah_Loftus@americanchemistry.com on 11/11/2002 08:38:01 AM

To: Rtk Chem/DC/USEPA/US@EPA, NCIC OPPT/DC/USEPA/US@EPA
cc:

Subject: Group 4 HPV Test Plan Submission

HPV Test Plan Submission from the American Chemistry Council Petroleum Additives HERTG - HPV Registration Number

Three documents (1. cover letter, 2. test plan and 3. robust summaries) are attached to this e-mail for the HERTG HPV Dithiophoshate category. If you have any questions or comments, please feel free to contact me. Below, my contact information is listed. Thank you very much. Sarah McLallen

(See attached file: Group 4 (All Docs).zip)

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- Group 4 (All Docs).zip

November 11, 2002

By Mail
Christine Todd Whitman, Administrator
US EPA
PO Box 1473
Merrifield, VA 22116

Attn: Chemical Right-to-Know Program – Test Plan Submission from HERTG
Registration Number

Dear Administrator Whitman:

The American Chemistry Council Petroleum Additives Panel (Panel) Health, Environmental, and Regulatory Task Group (HERTG) submits for review and public comment its test plan report, as well as related robust summaries, for the *"Dithiophosphate Alkyl Esters"* category of chemicals under the Environmental Protection Agency's High Production Volume (HPV) Chemical Challenge Program. The HERTG understands that there will be a 120-day review period for the test plan report and that all comments generated by or provided to EPA will be forwarded to the HERTG for consideration.

The dithiophosphate alkyl esters in this category are site limited intermediates, which are used as petroleum lubricant additives, are characterized by having structural similarities and limited reactivity, low biological activity, and very low water solubility. Based upon the data reviewed in the attached report, the HERTG concludes that the physicochemical and toxicological properties of the proposed dithiophosphate alkyl esters category members are similar and follow a regular pattern as a result of structural similarity. Thus, HERTG believes these nine chemicals meet the EPA definition of a chemical category and will test them in accordance with the test plan summarized in the attached report. The nine chemicals in the dithiophosphate alkyl esters category are as follows:

- Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-propyl) esters – (CAS # 84605-28-7), referred to as "mixed 1,3-dimethylbutyl and iso-propyl derivative"
- Phosphorodithioic acid, mixed O,O-bis(iso-butyl and pentyl) esters – (CAS # 68516-01-8), referred to as "mixed isobutyl and pentyl derivative"
- Phosphorodithioic acid, mixed O,O-bis(sec-butyl and 1,3 dimethylbutyl) esters – (CAS # 68784-30-5), referred to as "mixed sec-butyl and 1,3-dimethylbutyl derivative"
- Phosphorodithioic acid mixed O,O-bis(sec-butyl and isooctyl) mixed esters – (CAS # 113706-14-2), referred to as "mixed sec-butyl and isooctyl derivative"

- Phosphorodithioic acid, mixed 0,0-bis(2-ethylhexyl and iso-butyl) esters – (CAS # 68784-32-7), referred to as "mixed 2-ethylhexyl and isobutyl derivative"
- 2-Pentanol, 4-methyl-hydrogen phosphorodithioate – (CAS # 6028-47-3), referred to as "1,3-dimethylbutyl derivative"
- Phosphorodithioic acid, 0,0-bis(2-ethylhexyl) esters – (CAS# 5810-88-8), referred to as "2-ethylhexyl derivative"
- Phosphorodithioic acid, O,O-dioctyl ester, branched – (CAS# 68649-43-4), referred to as "branched isooctyl derivative"
- Phosphorodithioic acid, O,O-diisooctyl ester – (CAS# 26999-29-1), referred to as "isooctyl derivative"

Briefly, the test plan for the HERTG dithiophosphate alkyl esters category includes the following tests and computer modeling:

- Water solubility – Testing will be conducted on the mixed 1,3-dimethylbutyl and isopropyl derivative (CAS# 84605-28-7). Results will be bridged to other members of the category.
- Photodegradation (atmospheric oxidation) modeling – Data will be developed using the AOP model in EPIWIN (1999). [EPIWIN. (1999). Estimation Program Interface for Windows, version 3.04. Syracuse Research Corporation, Syracuse, NY, USA.]
- Fugacity modeling – Environmental partitioning will be developed using a Mackay Level I (1998) equilibrium partitioning model. [Mackay, D. (1998). Level I Fugacity-Based Environmental Equilibrium Partitioning Model, Version 2.1 (16-bit). Environmental Modeling Centre, Trent University, Ontario, Canada.] and provided in robust summaries.
- Acute fish toxicity – Testing will be conducted on the mixed 1,3-dimethylbutyl and isopropyl derivative (CAS# 84605-28-7). Results will be bridged to other members of the category.
- Acute invertebrate toxicity – Testing will be conducted on the mixed 1,3-dimethylbutyl and isopropyl derivative (CAS# 84605-28-7). Results will be bridged to other members of the category.
- Alga toxicity – Testing will be conducted on the mixed 1,3-dimethylbutyl and isopropyl derivative (CAS# 84605-28-7). Results will be bridged to other members of the category.
- Mutagenicity – Bacterial mutation and *in vitro* chromosome aberration studies will be conducted on mixed 1,3-dimethylbutyl and iso-propyl derivative (CAS# 84605-28-7). Results will be bridged to other members of the category.

As HERTG developed this test plan, HERTG considered carefully and tried to limit how many animals might be required for tests included in the proposed plan and conditions to which the animals might be exposed. As noted above, a minimal amount of animal testing is proposed. HERTG believes that the concerns of some non-governmental organizations about animal welfare have been fully considered and that use of animals in this proposed test plan has been minimized.

Thank you in advance for your attention to this matter. If you have any questions regarding the test plan report or the robust summaries, or HERTG's activities associated with the Challenge Program, please contact Sarah Loftus McLallen at 703-741-5607 (telephone), 703-741-6091 (telefax) or Sarah_McLallen@americanchemistry.com (e-mail).

Sincerely yours,

Courtney M. Price
Vice President, CHEMSTAR

cc: HERTG members